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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands	)	WT Docket No. 02-353
	)	

To: the Commission

PETITION FOR RECONSIDERATION

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March 8, 2004

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SUMMARY

Rural Cellular Association ("RCA") requests reconsideration of a *Report and Order* ("*Order*") of the Federal Communications Commission ("FCC" or "Commission") wherein the Commission adopted service rules for Advanced Wireless Services ("AWS") in the 1710-1755 and 2110-2155 MHz bands, including provisions for application, licensing, operating and technical rules, and for competitive bidding.

The *Order* adopted a licensing plan that disserves the public in rural America by favoring large wireless carriers over small wireless carriers in the licensing process. The band plan adopted offers 80% of the licenses, and 89% of the spectrum, according to geographic license areas that only the nation's largest wireless carriers have the resources to purchase. Perhaps even worse, the single license to be offered according to MSA/RSA boundaries provides only 10 MHz of spectrum (5 MHz paired with 5 MHz).

As a result, the nearly 100 small "Tier III" carrier members represented by RCA, by all reasonable expectations, will be shut out of competition for four of the five licenses available because the geographic license areas are so large it will not be feasible for small carriers to compete successfully at auction. As to the one modestly sized geographic license area, small carriers, if successful, will have to make do with paired 5 MHz spectrum blocks that are not suitable, by the Commission's own evaluation, for the "...broader range of broadband services, including Internet access at faster speeds...[or to] accommodate future, higher data rates...[that will] provide operators with additional capacity, and importantly, with greater flexibility."[1] A mere 10 MHz of spectrum effectively denies small carriers the opportunity to offer a full complement of AWS.

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[1] *Order*, para. 44.

The result of the Commission's decision is that rural and small markets will be unserved or underserved, and consumers in rural areas and small markets will be less likely to enjoy the full range of benefits from new and advanced wireless services known as "third generation" (3G) systems. Small wireless carriers traditionally serve areas of lesser interest to large carriers, and they have done so with success. The same small carriers want to participate in the offering of voice, data and wireless broadband services using a variety of high-speed fixed and mobile networks, or International Mobile Telecommunications-2000 (IMT-2000). However, the band plan adopted in the *Order* does not provide a balanced opportunity for small carriers to enter the 3G market.

The public is well served only if there is potential for vigorous, facilities-based competition in the marketplace and the prospect for consumer choice. Consumer choice is not promoted by an effective limitation on the number of prospective competitors for large geographic area licenses. RCA urges the Commission to reconsider its *Order* and adopt a band plan that is more likely to produce a full variety of 3G service offerings in rural America. That result can best be achieved by offering all 90 MHz of spectrum according to MSA/RSA geographic areas, with no less than 20 MHz of spectrum per license. Alternatives to this proposal become less and less beneficial to the public to the extent that more of the spectrum is licensed according to larger "EA" or "REAG" boundaries. At a minimum, the Commission should reapportion the spectrum to be sure that at least two 20 MHz licenses are available in every MSA and RSA in the United States. The other extreme -- upholding the band plan adopted in the *Order* -- would have a negative, irreversible impact on the ability of small carriers to introduce 3G services to the public in rural and small markets.

TABLE OF CONTENTS

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	)	
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To: the Commission

PETITION FOR RECONSIDERATION

Rural Cellular Association ("RCA"), [2] by its attorneys, and pursuant to 47 U.S.C. § 405 and 47 C.F.R. § 106, hereby submits its petition for reconsideration of the *Report and Order* in the captioned proceeding released on November 25, 2003 ("*Order*"), by Federal Communications Commission ("FCC" or "Commission").[3] For the reasons set forth below, RCA respectfully requests that the *Order* be reconsidered, and that the band plan for Advanced Wireless Services ("AWS") licenses be revised.

I. Background

1. The Commission is properly motivated to promote the availability of wireless broadband access through a market-oriented approach to licensing AWS spectrum. The Commission cited goals of "...achieving the universal availability of broadband access and increasing competition in the provision of such broadband services both in terms of the types of

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[2] RCA is an association representing the interests of nearly 100 small and rural wireless licensees providing commercial services to subscribers throughout the nation. Its member companies provide service in more than 135 rural and small metropolitan markets where approximately 14.6 million people reside. RCA was formed in 1993 to address the distinctive issues facing wireless service providers.

[3] In the Matter of Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, ___ FCC Rcd ___ (2003), WT Docket No. 02-353, FCC 03-251, released November 25, 2003 (the "*Order*"). A summary of the *Order* was published in the Federal Register on February 6, 2004. 69 Fed. Reg. 5711.

services offered and in the technologies utilized to provide those services."[4] The offering of spectrum for AWS under the market-oriented Part 27 rules is an effective means by which to encourage efficient use of the national resource as well as growth and development of broadband services. RCA supports many of the Commission's conclusions in the *Order* but the band plan adopted fails to achieve the Commission's goals of promoting (i) broadband service availability to all persons, in urban and rural areas alike, or (ii) competition in the offering of AWS. RCA respectfully submits that the band plan adopted in the *Order* is wholly inconsistent with the objective of fostering provision of AWS throughout the country and to all with an interest in obtaining the full complement of broadband services.

2. To accommodate AWS the Commission created two contiguous 45-megahertz bands consisting of 1710-1755 and 2110-2155 MHz.[5] The Commission issued a *Notice of Proposed Rulemaking* and received comment on licensing, technical and operational rules to govern the use of the 1710-1755 and 2110-2155 MHz bands.[6] RCA participated by filing Comments in that proceeding. In the *Order*, the FCC adopted a geographic area licensing scheme under which initial licenses for AWS spectrum will be assigned through competitive bidding. The *Order* also confirmed that entities will be permitted to acquire spectrum in these bands through post-auction mechanisms including disaggregation, partitioning and secondary markets.[7]

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[4] *Order*, para 2.

[5] Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *Second Report and Order*, 17 FCC Rcd 23193 (2002) (*AWS Allocation Order*), *recons pending*.

[6] Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Notice of Proposed Rulemaking*, 17 FCC Rcd 24135 (2002) (*AWS Service Rules NPRM*).

[7] *See*, Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, *Report and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 00-230, FCC 03-113 (rel. Oct. 6, 2003) (*Secondary Markets Report and Order*).

The *Order* observes that these flexible spectrum policies applied to the new AWS bands "will allow more entities access to the AWS spectrum and permit the marketplace to decide what use is made of this spectrum."[8]

3. In the *AWS Service Rules NPRM*, the Commission sought comment on the optimum size of the geographic licensing areas to be used to license the AWS spectrum, on the amount of spectrum that should be included in each license, whether the spectrum should be paired, and other licensing matters. RCA submitted Comments to which the Commission responded favorably in many respects. In the *Order* the Commission agreed with RCA that the circumstances surrounding the future development and deployment of services in these bands warrant an initial license term of 15 years in order to provide investors with the necessary assurances that a sufficient amount of time will be available to recoup the initial costs of developing and deploying advanced wireless networks in the AWS bands.[9] With respect to interim performance requirements, the Commission agreed with RCA, citing RCA as the sole commenter on the issue, and determined that a mid-license term construction requirement is not needed. The Commission also observed, as suggested by RCA, that the public interest is not served when licensees meet an interim population coverage requirement by installing a small number of cell sites in an urban market, while installing few cell sites in rural markets.[10]

4. RCA also expressed in its Comments an overriding concern not satisfied by the provisions of the *Order*, namely viable access to AWS spectrum by small, rural carriers. RCA recommended that all licenses be awarded according to Metropolitan Statistical Areas ("MSAs")

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[8] *Order*, ¶ 26.

[9] *Order*, ¶ 70.

[10] *Order*, ¶ 77.

and Rural Service Areas ("RSAs"), and that the 90 MHz of AWS spectrum be divided into three spectrum blocks of 30 MHz each, in 15 MHz pairs.[11] Instead, the *Order* establishes only one spectrum block for MSA/RSA licensing, and that block is sized at only 10 MHz. As the Commission recognized in the *Order*, and as RCA's own engineering study confirms, service providers will need to make use of larger blocks of spectrum than 10 MHz in order to facilitate the full measure of new service offerings.[12] Small carriers with only 10 MHz of spectrum will have great difficulty establishing a business plan for delivery of limited forms of AWS, and absent a business plan small carriers will be unable to justify the investment or secure adequate financing to provide the service. RCA requests the Commission to revisit the band plan including the geographic area licensing plan and make available all 90 MHz of spectrum according to MSA/RSA boundaries with no less than 20 MHz of spectrum for each license.

II. The Band Plan Decision

5. The *Order* adopted a geographic area licensing approach for AWS that will use both regional and localized service areas, employing symmetrically paired spectrum blocks with the pairings being comprised of different bandwidths. In total, 946 licenses for spectrum in the 1710-1755 and 2110-2155 MHz bands will be made available. The table below summarizes the adopted band plan:

Blocks	Pairings	MHz	Area	Licenses
A	1710-1720 and 2110-2120	20	EA	176
B	1720-1730 and 2120-2130	20	REAG	12
C	1730-1735 and 2130-2135	10	REAG	12
D	1735-1740 and 2135-2140	10	RSA/MSA	734
E	1740-1755 and 2140-2155	30	REAG	12

[11] RCA Comments, ¶¶ 3 and 6.

[12] See, Declaration of Consulting Engineers LeRoy A. Adam and Leila Rezanavaz attached to this Petition.

6. By this plan the 90 MHz of available spectrum is divided into five licenses, four of which are to be offered for large sections of the country known as Economic Areas ("EAs") and Regional Economic Area Groupings ("REAGs"). One license for RSA/MSA sized markets was made available. The Commission offered as support for this plan the reasoning submitted in Comments by RCA. The Commission stated, "As RCA observes, MSAs and RSAs permit entities who are only interested in serving rural areas to acquire spectrum licenses for these areas alone and avoid acquiring spectrum licenses with high population densities that make purchase of license rights too expensive for these types of entities." [13] The Commission acknowledged that "MSAs and RSAs allow entities to mix and match rural and urban areas according to their business plans. By being smaller, these types of geographic service areas provide entry opportunities for smaller carriers, new entrants, and rural telephone companies."[14] The Commission concluded that the "band plan will foster service to rural areas and tribal lands and thereby bring the benefits of advanced services to these areas."[15]

III. Argument

A. Licensing by MSA/RSA Boundaries Is in the Public Interest

7. While RCA appreciates the recognition of its Comments, it also submits, respectfully, that the Commission did not act with a commensurate application of the principals proposed in the RCA comments. The adopted band plan promotes competition in neither (i) the licensing process, nor (ii) the offering of services to the public in all areas of the United States. Simply stated, large wireless carriers historically have not given priority to small and rural

[13] *Order*, ¶ 39.

[14] *Id.*

[15] *Id.*.

markets. RCA does not offer this comment with criticism toward the large carriers. It is a simple and understandable fact. After large companies purchased broadband Personal Communications Services licenses for Major Trading Areas ("MTAs") in Auction No. 4, they did not devote attention to the rural markets. To this day, large companies typically allow their spectrum in PCS Blocks A and B to lie fallow in rural areas (with the possible exception of along major highways) unless they are motivated to sell the spectrum to small carriers on terms dictated by the MTA license holders. Lacking the resources to bid for PCS MTA licenses in 1995, small carriers and entrepreneurs were resigned to bid on smaller geographic area licenses, offered as Basic Trading Areas ("BTAs"). Interest was high and auction participants bid up to unprecedented levels the prices for the BTA licenses in Auction No. 5. The competition was so intense and the winning bids so high for the single BTA license made available in Auction No. 5 that the Commission was later pressured by Congress and license holders alike to make concessions and offer a choice of (i) debt cancellation upon return of the spectrum, or (ii) a partial debt cancellation upon return of a portion of the spectrum. Small carriers still desire to serve small markets, and they are willing and able to compete for licenses offered according to MSA/RSA boundaries or BTA boundaries. And yet, when competition for licenses is limited by the Commission's offering of spectrum for overly large geographic areas, the number of capable bidders is also limited. History shows that in such circumstances, the spectrum is sold relatively cheap to a few large companies with access to capital in the public markets. Left out of the process are small carriers without access to capital in the public markets, and the citizens in small and rural markets whom the small carriers desire to serve. Large carriers direct priority, and understandably so, to the major metropolitan areas because the profit margins are larger with a mass market service

offering. The Commission can and should do better given the experience it has gained through the last ten years of auction results and service deployment.

8. MSA/RSA boundaries represent the common denominator for licensing purposes. The areas are small enough to invite competitive bidding by carriers of all sizes in most markets, but "stackable" into regional territories by bidders who seek to accumulate licenses for large regional offerings. The *Order* nevertheless allotted only one license with MSA/RSA boundaries, and allocated only 11% of the AWS spectrum for that MSA/RSA license. There is no mistaking the overwhelming advantage granted to large carriers by this band plan. While small carriers are shut out of bidding for large regional areas, the public they desire to serve is correspondingly deprived of service with the local focus typical of small wireless providers.

9. It is the Commission's obligation to promote development and deployment of new auctionable services for the benefit of the public, "including those residing in rural areas."[16] The Commission is directed by statute to do so "by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women."[17] Making 89% of AWS spectrum available at auction only in blocks of overly large and expensive economic areas does not advance the statutory objectives set forth by Congress for the design of competitive bidding systems. A greater amount of spectrum must be made available in the approachable size of MSAs/RSAs in order for small markets and rural areas to be adequately served and a diversity of licensees to be achieved. The Commission has not demonstrated or

[16] 47 U.S.C § 309(j)(3)(A).

[17] 47 U.S.C § 309(j)(3)(B).

suggested that MSA/RSA licensing would harm large carriers. It follows that uniform use of the smaller geographic license area would best fulfil Congressional directives.

10. The Commission expresses in the *Order* a belief that the band plan adopted meets the needs of small providers, and that their business interests will be advanced further by policies permitting partitioning and disaggregation, and by new procedures adopted in the *Secondary Markets Report and Order.* [18] The Commission concluded that in adopting the AWS band plan it had struck the balance by including a variety of geographic license area sizes, thus providing business flexibility and ensuring a variety of applicants.[19] As noted in the *Order*, RCA had expressed concern that small rural carriers have insufficient bargaining power when negotiating partitioning and disaggregation agreements, yet the Commission chose to leave small carriers to the mercy of large carrier cooperation, and possible leasing, as a means to acquire more than 10 MHz of AWS spectrum, stating, "These proceedings should help ensure that small businesses and rural carriers can acquire spectrum to meet their business needs." [20] The fact is, they will not. What will is the Commission fulfilling its obligation and making more AWS spectrum available at auction by MSA/RSA, from the start. Large carriers can participate at will and aggregate spectrum to meet their scalable business plans. Unfortunately, the Commission has placed the burden on small carriers. Yet small carriers do not have the market power to arrive at their own solution. Small carriers cannot force large carriers to sell or lease their AWS spectrum once it has been acquired from the Commission.

[18] *Order*, ¶ 83, citing, *Secondary Markets Report and Order.*

[19] *Order*, ¶ 142.

[20] *Order*, ¶ 83.

11. By way of illustration, RCA suggested in its Comments a solution by which unused spectrum could be returned to the Commission for re-auction, effectively disaggregating or partitioning the spectrum back to the Commission. The FCC declined to adopt the RCA proposal to put after-market spectrum into the hands of small carriers.[21] If the Commission does not want to deal with post-auction transactional mechanisms, it should be understandable that large carriers will not care to do so either. AWS spectrum in rural markets will be wasted unless the Commission reconsiders its *Order* and revises the band plan to maximize the upfront opportunities for small carriers to become AWS licensees.

B. More than 10 MHz of Spectrum Is Needed for a full Complement of AWS

12. The Commission's allocation of a 10 MHz block of MSA/RSA-sized licenses does not make available to small carriers the opportunity to offer the full range of AWS to the markets they serve. Larger spectrum blocks are necessary. Larger spectrum blocks are needed by licensees with interest in introducing and developing wireless broadband and other 3G services.

13. The 10 MHz block relegated to MSAs/RSAs is insufficient to support a viable business plan, to the particular detriment of small, rural carriers. The Commission may have believed that a variety of spectrum blocks would be beneficial, yet the inherent limitations of paired 5 MHz spectrum blocks were addressed in the *Order*:

> Five megahertz blocks can be used for new technologies and can be used for some data services, including Internet access. Paired five megahertz blocks enable a single wideband CDMA channel, which is sufficient to provide some forms of Internet access. Five megahertz blocks also provide entry opportunities for small and rural service providers. The larger ten and fifteen megahertz blocks should enable a broader range of broadband services, including Internet access at faster speeds. These larger blocks

[21] *Order*, ¶ 140.

> should also accommodate future, higher data rates, and provide operators with additional capacity, and, importantly, with greater flexibility. The larger blocks should also be of interest to those service providers contemplating a large regional or nationwide service. [22]

In effect, and RCA believes unintentionally, the Commission's band plan relegated small carriers to a position of competing for a single license in each area that is capable of providing a single wideband CDMA channel. Internet access at faster speeds, higher data rates, additional capacity, and greater flexibility was left as the exclusive province of large carriers that can compete for large geographic license areas. The net result is that large carriers contemplating a large regional or nationwide service are the only parties capable of acquiring the larger and more useful blocks of AWS spectrum.

14. RCA's engineering consultants studied the band plan adopted by the *Order* and reached conclusions not inconsistent with the Commission's own observations concerning the utility of 10 MHz AWS spectrum blocks. In the attached Declaration, Consulting Engineers LeRoy A. Adam and Leila Rezanavaz review the capabilities and limitations of a 10 MHz spectrum block when used in either a CDMA or a GSM – W-CDMA deployment. Future anticipated spectrum needs were examined with respect to Voice, Data and EvDO/EvDV applications. The following conclusions were reached:

> High speed and high quality data connections in a mobile setting are the logical follow-on to 802.11b "hot spot" proliferation. Streaming video, movies on demand, large data downloads, video conferencing, and the use of laptops in a mobile environment will dictate speed and quality demands that can be met only at the CDMA2000 3xRTT (Phase II) and/or the W-CDMA level. Data rates and channels required to meet such demands are not achievable within the 5 MHz up/down configuration.
>
> 5 MHz per forward/reverse link will accommodate only three separate CDMA carriers with peak speeds of 144 kbps. The limitation of 3xRTT to

[22] *Order*, ¶ 44.

> one constellation permits a data rate of only 307 kbps peak and to 2.4 mbps with an EvDO dedicated carrier. GSM similarly confined can provide only up to 384 kbps (with EDGE capability); UMTS will reach a peak data rate of 2 mbps but utilizes 3.84 MHz plus guard band per carrier.
>
> A total of 10 MHz of spectral bandwidth severely restricts growth consistent with 3G technology, places the licensee at a competitive disadvantage to those who have larger blocks of spectrum in the same service area, restricts backward compatibility, and limits interoperability of high data rate services with other providers who can offer such services.

The need for more spectrum, while a familiar call to the Commission, can be addressed without difficulty in this instance. Simple changes to the band plan used for licensing of the 90 MHz allocation will resolve the problem. RCA submits that licenses of not less than 20 MHz each would be most appropriate for the 3G services envisioned, again with MSA/RSA geographic boundaries to promote maximum competition for licenses and expeditious delivery of new services to all Americans, whether in large, small or rural areas of the country.

C. The Statute Mandates Diversity in Auction Opportunities

15. The determination of whether the FCC's action contravenes the governing statute is made using the familiar two-step analysis of *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984). *See, e.g., GTE Service Corp. v. FCC,* 224 F.3d 768, 771 (D.C. Cir. 2000). Under *Chevron* step one, the first question is "whether Congress has directly spoken to the precise question at issue." 467 U.S. at 842. If so, "that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Id.* at 842-43. If not, then under *Chevron* step two, the reviewing court will defer to the FCC's "interpretation of the Act if it is reasonable in light of the text, the structure, and the purposes of the Act." *GTE*, 224 F.3d at 772.

16. To decide if Congress has spoken on the issue of whether the Act permits the action, the Court must look "beyond the language employed by the FCC to describe its action." *P & R Temmer v. FCC*, 743 F.2d 918, 927 (D.C. Cir. 1984). Under the *Chevron* framework, "the court must first exhaust the traditional tools of statutory construction to determine whether Congress has spoken to the precise question at issue." *National Resources Defense Council, Inc. v. Browner*, 57 F.3d 1122, 1125 (D.C. Cir. 1995). Thus, the Commission must employ the rules of construction which § 309(j)(6) of the Act, mandates. Those rules in relevant part provide that nothing in §309(j) or in the use of competitive bidding shall: (1) "alter spectrum allocation criteria and procedures" established by other provisions of the Act; or (2) "limit or otherwise affect the requirements" of 47 U.S.C. § 301, 304, 307, 310, or 706, or "any other provision" of the Act (except subsections 309(d)(2) and (e)). Applying those rules of construction, as the Commission must, allows this case to be disposed of under *Chevron* step one.

17. Congress has spoken directly on the specific issue of whether spectrum must be auctioned in a manner that promotes access by small businesses. The actions the FCC must take to allocate spectrum are prescribed with "crystalline clarity" by §309(j)(3) of the Act. *American Civil Liberties Union v. FCC*, 823 F.2d 1554, 1568 (D.C. Cir. 1987). The statutory provisions are clear and unequivocal on their face: new auctionable services must be promoted in rural areas, and licenses must be disseminated among a wide variety of applicants, including small businesses, rural telephone companies, minorities and women. The Commission should recognize that it has no lawful choice other than to revisit the AWS band plan and make necessary modifications to assure that small businesses and rural customers have meaningful access to the spectrum offered.

IV. Conclusion

18. For all of the reasons set forth above, RCA urges that the *Order* be reconsidered and revised to change the AWS band plan including the geographic license areas and spectrum allocated for each of the licenses offered.

Respectfully submitted,

RURAL CELLULAR ASSOCIATION

By: _____

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March 8, 2004

DECLARATION

We, LeRoy A. Adam and Leila Rezanavaz, hereby state and declare:

We are Consulting Engineers retained by Rural Cellular Association. We verify that the facts set forth below are true and correct to the best of our knowledge and belief, except that we do not and need not attest to those facts which are subject to official notice by the Commission.

.

Question: Does 10 MHz of bandwidth (5 MHz forward and 5 MHz reverse link) adequately support the future demand for third generation ("3G") level and follow-on advanced wireless services (AWS)?

Assumptions:

AWS will operate using CDMA and/or GSM or successor technologies.

Demand for AWS will grow as applications are defined, technologies mature, and networks are optimized.

Demand will drive AWS toward a par with its non-wireless counterparts.

Public familiarity with the Internet will enhance the popularity of AWS applications.

Current Capability and Limitations (2G - 3G)

Current wireless services range from 2G overlays of analog cellular systems to some 3G level service. CDMA2000 operators are already migrating to the 6-carrier level requiring 9 MHz of bandwidth each for forward and reverse links. Limiting an operator to 5 MHz of bandwidth per link eliminates such growth and restricts data rates.

CDMA:

CDMA-One (IS-95B): 1.25 MHz single carrier operation limits service to 35 traffic channels with peak data rates of 64 kbps per cell/sector.

CDMA2000 (1xRTT): Also 1.25 MHz single carrier operation provides for up to 80 voice and data channels expandable to multiple carriers of Nx1.25 MHz (N=1, 2, 3, . . .11) plus guard band within 15 MHz of bandwidth per forward/reverse link; only three (3) carriers (105 traffic channels per cell/sector and data rates of up to 144 kbps) can be fit into 5 MHz per forward/reverse link.

CDMA2000 (3xRTT): Three (3) wideband constellations (N=1, 3, and 6) within 5, 12.5, and 15 MHz bandwidth; provide 315 voice or data channels per constellation and data rates up to 384 kbps. Full potential (i.e. Phase II) requires 15 MHz per link, serving up to 210 users at 2.4 mbps per constellation. CDMA2000 (3xRTT) service (i.e. 9 x 1.25 MHz + guard band = 12.5 MHz per link) meets ITU-2000 packet and circuit data criteria for "Indoor Office" service (2.0 mbps), whereas a single constellation of CDMA 3xRTT 5 MHz per forward/reverse link does not.

GSM/W-CDMA: GSM with GPRS operates using channels requiring 200 kHz bandwidth each for a total of 4.8 MHz serving an average of 7.5 voice or data links per cell/sector at data rates up to 144 kbps depending on user mobility status and location relative to the base station; EDGE improves the data rate up to 384 kbps, also dependent on user mobility and location, but it requires a dedicated RF carrier. UMTS serves up to 256 users per carrier at data rates up to 2.0 mbps but requires a 3.84 MHz carrier bandwidth plus guard band. Essentially, 5 MHz per forward/reverse link is the minimum essential bandwidth needed to support the least W-CDMA capability.

Future Requirements (3G and 3G+)

Voice: The quality and quantity of voice services contribute to the consumption of bandwidth within the limitations of the technology being employed; growth will require ever increasing spectral bandwidth and base station density.

Data: Streaming video, video conferencing, interactive gaming, photo images, internet browsing, and remote control of home appliances, lighting and heating are but some rapidly emerging wireless data activities. The advent of handsets with scaleable picture size, interactive video capability with enhanced color and full motion, will require data rates well above the 64 kbps in use today. Full "laptop" screen DVD quality service (i.e. 640x480 pixel resolution at 30 fps and stereo sound) requires data rates of nearly 800 kbps and could quickly migrate to 2.0 mbps or more to reach a quality of service commensurate with cable modem. Laptop processors, already proliferating and operating wirelessly via "Wi-Fi" (802.11b) will transition to cellular-type wireless interconnectivity as data rates and quality of service improve.

EvDO/EvDV: EvDO offers up to 2.4 mbps peak data rates but requires one 1.25 MHz CDMA carrier. EvDV integrates voice capability with EvDO capability while enhancing the data rate up to 3.1 mbps peak. Neither will provide the full advantage of its higher data rate service for licensees limited to 10 MHz total bandwidth (i.e. 5 MHz forward/5 MHz reverse link).

Conclusions:

High speed and high quality data connections in a mobile setting are the logical follow-on to 802.11b "hot spot" proliferation. Streaming video, movies on demand, large data downloads, video conferencing, and the use of laptops in a mobile environment will dictate speed and quality demands that can be met only at the CDMA2000 3xRTT (Phase II) and/or the W-CDMA level. Data rates and channels required to meet such demands are not achievable within the 5 MHz up/down configuration.

5 MHz per forward/reverse link will accommodate only three separate CDMA carriers with peak speeds of 144 kbps. The limitation of 3xRTT to one constellation permits a data rate of only 307 kbps peak and to 2.4 mbps with an EvDO dedicated carrier. GSM similarly confined can provide only up to 384 kbps (with EDGE capability); UMTS will reach a peak data rate of 2 mbps but utilizes 3.84 MHz plus guard band per carrier.

A total of 10 MHz of spectral bandwidth severely restricts growth consistent with 3G technology, places the licensee at a competitive disadvantage to those who have larger blocks of spectrum in the same service area, restricts backward compatibility, and limits interoperability of high data rate services with other providers who can offer such services.

We declare under penalty of perjury that the foregoing is true and correct.

Executed on this 5th day of March, 2004.

LeRoy A. Adam

Leila Rezanavaz

LeROY (ART) ADAM, Senior Engineer, received a Bachelor of Science degree from the United States Military Academy and a Master's degree in Electrical Engineering from the University of Alabama. He has had several senior communications positions in the U.S. Department of Defense (DOD) and NATO. His more than 30 years of experience in communications/electronics related research and development ("R&D"), operations, and logistical support includes command of the East Coast Telecommunications Center, a DOD microwave and satellite communications facility and home at the time of the United States ground terminal of the Washington-Moscow hotline; subsequently he commanded the U.S. Army Electronics Materiel Readiness Activity and Vint Hill Farms Station, the former R&D and logistics support center for national signals intelligence systems. For the past thirteen years Mr Adam has been involved in the design, construction, and testing of wireless communications systems, point-to-point microwave, paging, conventional mobile telephone, and cellular/wireline interconnect systems.

LELIA REZANAVAZ has more than 14 years of experience in designing, FCC licensing and building of numerous cellular, paging, microwave, SMR, ESMR, and PCS systems in the United States and abroad since 1990. She has been involved in design and implementation of several AMPS, TDMA, GSM, and CDMA Networks in Europe, South America, and The United States. Ms Rezanavaz received her B.S. degree from George Mason University in Electrical and Computer Engineering. She is presently a senior consultant at Lukas, Nace, Gutierrez, and Sachs.

CERTIFICATE OF SERVICE

I, Danny Ladmirault, an employee in the law offices of Lukas, Nace, Gutierrez & Sachs, Chartered, do hereby certify that I have on this 8th day of March, 2004, sent by hand-delivery, a copy of the foregoing **PETITION FOR RECONSIDERATION** to the following:

Michael K. Powell, Chairman
Federal Communications Commission
445 12th Street, S.W., Room 8-B201
Washington, DC 20554

Kathleen Q. Abernathy, Commissioner
Federal Communications Commission
445 12th Street, S.W., Room 8-B115
Washington, DC 20554

Michael J. Copps, Commissioner
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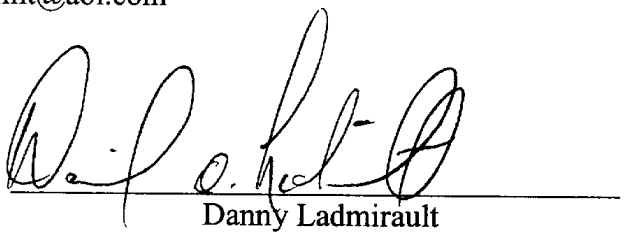

Danny Ladmirault

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